

## Draft Floodplain Recommendations for Built Environment

OR

## Draft Floodplain Recommendations for Existing Urban Area

***WORK-IN-PROGRESS March 20, 2003***

*The draft/work-in-progress floodplain standard recommendations for the 'Built Environment' or 'Existing Urban Area' below were initially developed following polling and discussion amongst the floodplain task force members during their January 21, 2003 meeting. Items common to the draft recommendations for New Growth Areas have been revised for consistency so that there is a common reference point for further discussion. 'Redlined' text reflects revisions made since the February 14th draft.*

For the purposes of these recommendations, the 'Built Environment' is defined as those areas within the City limits at the time a new standard is adopted.

OR

For the purposes of these recommendations, the 'Existing Urban Area' is defined as those areas inside the City limits at the time a new standard is adopted *as well as* those areas outside the City limits which have a zoning designation other than AG (Agricultural) or AGR (Agricultural Residential) at the time a new standard is adopted.

1. No Adverse Impact. In new growth areas, the City of Lincoln and Lancaster County should have a policy of No Adverse Impact, with a goal of ensuring that the action of one property owner does not adversely impact the flooding risk for other properties, as measured by increased flood stages, flood velocity, flows, or the increased potential for erosion and sedimentation.
2. No Net Rise/Compensatory Storage Standard. A No Net Rise and Compensatory Storage standard should be adopted. This means that development within the 100-year floodplain in new growth areas should be

required to demonstrate through an engineering study that it will cause no increase in the water surface elevation of the 100-year flood greater than five hundredths of a foot (0.05'). In addition, compensatory storage should be required at a ratio of 1.5 to 1 for volume of flood storage lost to fill or structures in the 100-year floodplain. Compensatory storage should be provided with the objective of being hydrologically similar to lost flood storage volume, but a hydrologic study should not be required to demonstrate that the storage is hydrologically equivalent. *(See Appendix A for additional information; also, see Item 11 for discussion of this standard as it relates to substantial improvements).*

3. Stream Crossing Structures. The City and County should adopt a practical standard for stream crossing structures which takes into account that there are circumstances in which it is structurally or financially infeasible to construct stream crossings without causing any rise in flood heights in the flood fringe. Construction of stream crossing structures should be required to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate for any impacts to flood storage or flood heights. The standards should be flexible and consider alternatives such as an allowable rise between 0' -1' in the flood fringe, and/or purchase of property or easements where flood heights will increase and an amendment is made to the FEMA flood insurance rate map. *(See Appendix B for additional information).*
4. Stream Buffers. The Minimum Flood Corridor stream buffer or similar standard should be applied in the City and County within the FEMA-mapped floodplains and along smaller, unmapped streams that have a defined bed and bank. Encroachments should be permitted per the existing standards for Minimum Flood Corridors for operation, maintenance and repair, channel stabilization, stormwater storage facilities, utility crossings, public parks, pedestrian/bike trails and other recreational uses and public purposes. However, proposed encroachments should be required to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate for any encroachments. Mitigation for loss of vegetation and flood storage should occur at a 2 to 1 ratio. Where land uses prior to development have an impacted on the buffer width, the area should be

replanted with vegetation compatible with the corridor and water quality benefits.

5. Surplus/Vacated Floodplain Property Policy.

The City and County should adopt a policy where, under normal circumstances, City or County property in the floodplain is not proposed for surplus. If there are unusual circumstances that cause the consideration of declaring surplus property in the floodplain, the City or County should retain a permanent conservation easement that protects the flood storage capacity, or any flood storage impacts should be mitigated in a hydrologically similar way at a  $\geq 1$  to 1 ratio. Declaring surplus property should not be considered *under any circumstances* where floodplains contain environmental resources such as riparian areas or stream corridors that provide habitat and water infiltration benefits or serve as connectors to natural areas.

When other publicly-owned property in the floodplain is proposed for surplus, the City should consider purchasing the property fee simple, or alternatively, purchasing a permanent conservation easement where appropriate to preserve flood storage and other environmental resources.

When street or alley ROW in the floodplain is proposed for vacation, the City or County should retain a permanent conservation easement that protects the flood storage capacity. Consideration should be given to allowing for a conservation easement to be deeded over an alternate floodplain area having equal or greater flood storage volume where appropriate.

6. Floodplain Buyout Program. The City and County should develop and implement a ~~continuous~~ continuing floodplain buyout program ~~with criteria that include minimizing which is sensitive to the need to minimize impacts to neighborhoods and historic districts and developing contiguous open space.~~ Special emphasis should be placed upon sites that provide multiple benefits. These include opportunities to develop contiguous open space, preserve environmental resources, and to mitigate flood damage by providing additional detention for flood water during major storm events. Where possible, the City and county should form partnerships and pool resources

with other public agencies. Eminent domain should ~~only~~ be used to acquire property only as a last resort.

7. Floodplain Development Fee. At this time, it is not appropriate for the City or County to charge a floodplain development fee. Consideration of a floodplain development fee would require further evaluation regarding alternative fee structures and criteria for applying the fees in a logical and equitable manner. If a fee is established at some time in the future, however, consideration should be given to dedicating the revenue to advance the flood mapping program and to assist in the funding of floodplain buyouts.
8. Best Management Practices. 'Best Management Practices' such as grassed swales, water quality wetlands, retention cells, etc. are recommended and should be *encouraged* in floodplain areas. Best Management Practices are identified in the City of Lincoln Drainage Criteria Manual and can offset impacts to the natural and beneficial functions of floodplains when they are developed. (*See Appendix C for additional information*).
9. Salt Creek Flood Storage Areas. ~~An interim standard should be adopted for Salt Creek Flood Storage Areas in the City of Lincoln that reflects the percentage by volume of allowable fill in the flood fringe as identified for 19 storage areas from Van Dorn Street to Superior Street in the FEMA Flood Insurance Study. The standard should be applied on a parcel by parcel basis until such time as a comprehensive flood mapping study can be completed for this reach of Salt Creek to provide better information as a basis for a new standard.~~

The City should pursue the following actions regarding the Salt Creek floodplain in Lincoln and in the upstream basins:

- a. A new, comprehensive floodplain study and FEMA floodplain mapping effort;
- b. Investigation and preservation of detention in upstream basins and implementation of previously identified detention cells on Oak Creek and Middle Creek;
- c. Acquisition of land or conservation easements to protect existing

- overbank flood storage capacity along Salt Creek through Lincoln; and  
d. Design and construction of new and replacement bridges to reduce backwater and other flooding impacts.

10. Building Construction Standards. ~~Buildings in new growth areas should be protected to an elevation 1.5 feet above the 100-year flood elevation.~~ Buildings in new growth areas should continue to be protected to an elevation 1 foot above the 100-year flood elevation in accordance with the minimum requirements of the State of Nebraska. Should a No Net Rise/Compensatory Storage standard *not* be adopted in New Growth Areas, buildings should be protected to an elevation 1.5 feet above the 100-year flood elevation.

'Best Construction Practices' relating to site development and construction should be strongly encouraged. These include reducing impacts to flood storage by limiting fill to building pads in lieu of filling an entire site, floodproofing non-residential structures, and attention to the alignment of buildings relative to the flow of flood water. Development should be encouraged to demonstrate a sequencing approach that seeks first to avoid, then to minimize, then mitigate impacts to the floodplain.

11. Substantial Improvement Threshold. Where there are existing residential, commercial, or industrial structures within the floodplain, the substantial improvement threshold should continue to be implemented the same way that it is today (which reflects the minimum federal requirements). That is, when an improvement is made to a structure that is equal to or greater than 50% of its value, the entire structure must be brought into compliance with the floodplain regulations. Each separate improvement is considered individually relative to the 50% threshold.

In lieu of a new policy to cumulatively track substantial improvements, the City should implement a standard requiring *all* lateral additions to non-residential structures to be elevated or protected to 1.5' above the base flood elevation. Residential structures should be exempt from this requirement. (All structures will still have to meet the current 50% improvement/damage threshold to remain in compliance with minimum NFIP

requirements).

To be consistent, the No Net Rise/Compensatory Storage standard should also be met when a substantial improvement ( $\geq 50\%$  of the value) is made to a structure, or when a lateral addition is made to a non-residential structure.

12. Cluster Development. Additional incentives should be adopted for clustering development outside the floodplain by broadening the current language in the zoning ordinance regarding the protection of natural/environmentally sensitive areas that is currently included in the AG & AGR districts. Consideration should be given to appropriate density bonuses and more specific language regarding clustering outside of floodplain areas. Permanent conservation easements should be required as a method of protection to receive the bonus. Land areas left open by clustering development outside the floodplain should be utilized for open space, parks, trails, or natural areas as compatible with the site and the particular floodplain area.
13. Best Available Study Information.
  - a. 100- year floodplain boundary and flood elevation information (existing conditions) developed for watershed master plans should be utilized as the 'best available information' for the purposes of administering the Floodplain Ordinance relative to requirements for proposed subdivisions and building permits. Until accurate information can be developed through the watershed master planning process, development and planning efforts should recognize the variable reliability of the FEMA floodplain maps and discourage building to the edge of the FEMA floodplain boundaries.
  - b. The stormwater standards should continue to apply to floodprone areas, or "100-year storm limits" that are required to be shown with new subdivision proposals along smaller tributaries. Floodplain standards should not be applied to these areas unless they are shown on the FEMA floodplain maps or have been identified through a watershed master plan. *(See Appendix D for additional information).*

- c. Consideration should be given to regulating based upon a "future conditions" floodplain when the information is available through watershed master planning. However, this topic needs further evaluation and discussion. The benefits of this approach need to be assessed relative to the benefits already provided by: 1) the protection of flood storage and conveyance following the adoption of new standards for floodplain areas, 2) the detention/retention standards already in place to address stormwater runoff throughout the basin, 3) watershed master planning and implementation addressing the timing of stormwater flow throughout the basin. The implementation of these three elements may or may not prevent significant increases in flood boundaries in the future.

14. Floodplain Mapping

The City and County should continue to develop and improve a comprehensive, watershed approach to floodplain mapping which recognizes the community interest and responsibility for the prevention of future flood damages. Accurate floodplain mapping should be a priority to which specific resources are dedicated, utilizing the latest technology and data available, and should be furthered where possible through partnerships with other agencies.

15. Real Estate Transactions. Lincoln and Lancaster County floodplain policies should reinforce accountability and disclosure laws regarding real estate transactions with regard to notifying prospective buyers of properties in the 100-year floodplain of the flood hazard and the requirement for flood insurance, and should encourage the provision of information regarding the 100-year flood elevation. The City and County should consider revisions to the Land Subdivision Ordinance and Lincoln Housing Code to require that the sale of a lot in the floodplain be disclosed to the buyer and a certificate of compliance with floodplain regulations be provided for residential structures in the floodplain. The City and County develop additional education efforts for owners or potential buyers of property in the floodplain.